Double Patenting

Claims 1-52 are rejected under the judicially created doctrine of double patenting over Claims 1-28 of U.S. Patent No. 5,874,064 and Claims 1-31 of U.S. Patent No. RE 37,053 E and Claims 1-28 of U.S. Patent No. 6,254,854 and Claims 1-27 of U.S. Patent No. 5,985,309 and Claims 1-33 of U.S. Patent No. 5,855,913 and Claims 1-40 of U.S. Patent No. 6,136,295.

According to the Examiner, the subject matter claimed in the instant application is covered by the above-referenced patents since the patents and the instant application are claiming common subject matter and that, although the instant application contains an additional component, the previous patents contain comprising language and therefore allow for the presence of additional materials.

Applicants respectfully disagree. While the scope of the instant claims may be encompassed by the scope of some of the claims cited by the Examiner and thus are dominated those claims (i.e., instant claims may define narrower and more specific claims which are embraced by the generic claims in the cited patents) or vice versa, this does not give rise to a proper provisional obvious-type double patenting rejection. Domination, by itself, does not give rise to double patenting. (In re Kaplan, 229 U.S.P.Q. 678, 681, (1986) a copy of which is enclosed for the Examiner's convenience). Applicants submit that the subject matter described by the instant amended claims is both novel and unobvious over the subject matter of the cited claims, and therefore the claims of the instant invention are patentably distinct from the cited claims.

Applicants request reconsideration and withdrawal of the Examiner's provisional rejection of the present claims under the judicially created doctrine of obviousness-type double patenting.

Rejection of Claims 1-7, 11-17, 21-26, 28, 49 and 51 under 35 U.S.C. §102(e)

Claims 1-7, 11-17, 21-26, 28, 49 and 51 are rejected under 35 U.S.C. §102(e) as being anticipated by Jensen *et al.* (US 6,043,214) ("Jensen"). The Examiner states that Jensen discloses a process for producing a therapeutic powder formulation, specifically, a dry powder composition comprising insulin or an analogue or derivative thereof, an enhancer, and zinc.

Jensen describes a process of producing a "dry" powder comprising precipitating a product comprising insulin or analogue or derivative thereof and the enhancer, wherein the precipitation is performed **essentially without evaporation of the solution**; and then removing the water. (See Jensen at Claim 1, steps (c) and (d) and col. 3, lines 51 through 54; emphasis added) Thus, Jensen teaches that spray drying can not be used to produce the crystals of the invention because inherent in the process of spray drying is the instantaneous and simultaneous production of dry powder and evaporation of the feed solution. Jensen goes on to state that the process of the invention results in a powder formulation of insulin and enhancer which elucidates a better stability profile than powders of essentially the same composition prepared by spray-drying. (See Jensen at col. 2, lines 55 through 58).

For anticipation under 35 U.S.C. §102, the reference must teach every aspect of the claimed invention either explicitly or implicitly. Jensen does not teach or suggest every aspect of the invention as claimed. Therefore, Jensen does not anticipate the claimed invention. Reconsideration and withdrawal of the rejection are respectfully requested.

Rejection of Claims 1-52 under 35 U.S.C. §103(a)

Claims 1-52 are rejected under 35 U.S.C. §103(a) as being unpatentable over Jensen *et al.* (US 6,043,214)("Jensen"), for the reasons set forth by the Examiner in the 35 U.S.C. §102(e) rejection above. Additionally, the Examiner states that although Jensen does not teach the tap density of the formulation, as claimed in the instant claims, the burden is shifted to Applicant to show that the composition described by Jensen does not contain the same properties as Applicants claimed formulation. Furthermore, the Examiner states that although Jensen does not teach the inclusion of a carboxylic acid, Jensen does teach that the pH is adjusted. The Examiner states that the carboxylic acids, as claimed by Applicants, are well known pH adjusters. Thus, according to the Examiner, one of skill in the art would have been motivated to use citric acid in the formulation of Jensen to perform the pH adjusting function. Therefore, according to the Examiner, Applicants claimed invention, as a whole, would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

For the reasons stated above, Jensen does not teach or suggest Applicants' claimed invention. Jensen does not teach or suggest spray-drying the insulin, enhancer, zinc formulation

to produce the crystals of Jensen's invention. In fact, as stated above, Jensen teaches away from Applicants claimed invention. One of skill in the art, upon reading Jensen, would not be motivated to prepare and insulin dry powder formulation through spray drying.

Because Jensen teaches away from Applicants' claimed invention there would be no motivation or suggestion to modify the teachings of Jensen with a reasonable expectation of success in achieving Applicants' claimed invention. As such, the claimed invention is non-obvious over the prior art. Therefore, the issues of tap density and pH adjustment are moot. That is, even if the tap density and the pH adjustment were the same (which Applicants believe they are not) the Jensen particles are distinct because Jensen actually defines his invention as being novel because they exhibit desired properties that are better than, and distinguishable from, spray-dried particles. Reconsideration and withdrawal of the rejection is respectfully requested.

Information Disclosure Statement

An Information Disclosure Statement (IDS) was filed on October 9, 2001. However, due to error at the United States Patent and Trademark Office (USPTO), the cited references listed on the 1449 form were not present when the application reached the Examiner. References were supplied to the USPTO at a great expense to the Applicants. Providing another copy of the same documents would only subject the Applicants to a further, duplicate, expense. Due to the cost, copies of the references not initialed on the 1449 form will not be provided. Although Applicants were under no duty to provide copies of the references since they were in the parent file, these copies were provided for the Examiner's convenience so that she would not need to pull the parent file. However, copies of lost cited references AL- AO2 and AR-AW4 can be found in prior application, U.S. Application No. 09/383,054, to which priority under 35 U.S.C. 120 is claimed. Entry of the IDS is respectfully requested. A clean copy of the 1449 form filed on October 9, 2001 is enclosed herewith. The Examiner is requested to return a copy of the 1449 form indicating which references were considered with the next office communication. Applicants believe no additional fee is required because the IDS was previously filed. It is requested that the information disclosed in the IDS be made of record in this application.

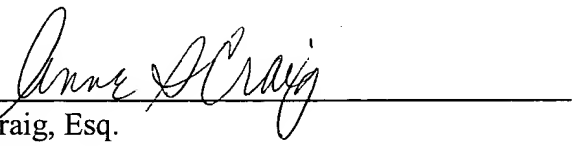
Additionally, a Supplemental Information Disclosure Statement (SIDS) is being filed concurrently herewith. Entry of the SIDS is respectfully requested.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned at (978) 341-0036.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By 

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Dated: 1-27-03

MARKED UP VERSION OF AMENDMENTS

Claim Amendments Under 37 C.F.R. § 1.121(c)(1)(ii)

1. (Amended) A method of delivery to the pulmonary system comprising:

administering to the respiratory tract of a patient in need of treatment, prophylaxis or diagnosis an effective amount of a [dry] spray-dried powder comprising:

a) a multivalent metal cation which is complexed with a therapeutic, prophylactic or diagnostic agent;

b) a pharmaceutically acceptable carrier; and

c) optionally, a multivalent metal cation-containing component

wherein, the total amount of multivalent metal cation present in the [dry] spray-dried powder is more than 1 % w/w of the total weight of the agent and wherein release of the agent is sustained.

26. (Amended) A method of delivery to the pulmonary system comprising:

administering to the respiratory tract of a patient in need of treatment, prophylaxis or diagnosis an effective amount of a [dry] spray-dried powder comprising:

a) a protein which is complexed with zinc;

b) a pharmaceutically acceptable carrier; and

c) optionally, a multivalent metal cation-containing component

wherein, the total amount of multivalent metal cation present in the [dry] spray-dried powder is more than about 2 % w/w of the total weight of the agent, delivery includes the deep lung and release of the agent is sustained.

30. (Amended) A composition for delivery to the pulmonary system comprising:

a) an effective amount of [dry] spray-dried powder of a therapeutic, prophylactic or diagnostic agent which are complexed to a multivalent metal cation wherein the agent has a charge which is opposite to that of the cation;

b) a pharmaceutically acceptable carrier; and

c) optionally, a multivalent metal cation-containing component

wherein, the [dry] spray-dried powder have a total amount of multivalent metal cation which is more than 1 % w/w of the total weight of the agent, a tap density of less than about 0.4 g/cm^3, a median geometric diameter of from about 5 micrometers and about 30 micrometers and an aerodynamic diameter of from about 1 to about 5 microns.

49. (Amended) A composition for delivery to the pulmonary system comprising:

administering to the respiratory tract of a patient in need of treatment, prophylaxis or diagnosis an effective amount of a [dry] spray-dried powder comprising:

a) a protein which is complexed with zinc;

b) a pharmaceutically acceptable carrier; and

c) optionally, a multivalent metal cation-containing component

wherein, the total amount of multivalent metal cation present in the [dry] spray-dried powder is more than about 2 % w/w of the total weight of the agent, delivery includes the deep lung and release of the agent is sustained.